

## ABSTRACT

A system for the rapid characterization of multi-analyte fluids, in one embodiment, includes a light source, a sensor array, and a detector. The sensor array is formed from a supporting member into which a plurality of cavities may be formed. A series of chemically sensitive particles are, in one embodiment positioned within the cavities. The particles may be configured to produce a signal when a receptor coupled to the particle interacts with the analyte. Using pattern recognition techniques, the analytes within a multi-analyte fluid may be characterized.

10

Year	Population	Area (sq. miles)	Population per square mile
1850	1,000,000	100,000	10
1860	2,000,000	100,000	20
1870	3,000,000	100,000	30
1880	4,000,000	100,000	40
1890	5,000,000	100,000	50
1900	6,000,000	100,000	60
1910	7,000,000	100,000	70
1920	8,000,000	100,000	80
1930	9,000,000	100,000	90
1940	10,000,000	100,000	100
1950	11,000,000	100,000	110
1960	12,000,000	100,000	120
1970	13,000,000	100,000	130
1980	14,000,000	100,000	140
1990	15,000,000	100,000	150
2000	16,000,000	100,000	160
2010	17,000,000	100,000	170
2020	18,000,000	100,000	180

